

Translation of the pertinent portions of an International Preliminary Examination Report, mailed 08/19/2005

2. This REPORT comprises a total of 7 pages, including the cover page.

3. Moreover, ATTACHMENTS are provided, these consist of:

a. (forwarded to Applicant and the international office) a total of 12 pages.

4. This report contains information regarding the following items:

Field No. I Basis of the Report
Field No. V Reasoned Determination under Article 35(2)

Field No. I Basis of the Report

1. Regarding the **language**, the report is based on the international application in the language in which the latter was filed, if nothing different is stated under this item.

2. Regarding the **components** of the International Application, the report is based on

Specification, pages

4 to 73 in the originally filed version
1 to 3 received 10/13/04 with letter of 10/12/04

Claims, nos.

3 to 45 in the originally filed version
1, 2 received 10/13/04 with letter of 10/12/04

Drawings, sheets

1/27 - 27/27 in the originally filed version

Field V Reasoned Determination under Article 35(2)

1. Determination

Novelty	Yes: Claims 1 to 45 No: Claims
Inventive Activities	Yes: Claims 1 to 45 No: Claims
Commercial Applicability	Yes: Claims 1 to 45 No: Claims

2. References and Explanations

see attached sheet

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

ATTACHED SHEET

Re.: Item V

1. Reference is made in the instant Notification to the following documents:

D1
D2
D3
D4
D5
D6

2. INDEPENDENT CLAIM 1

2.1 Document D1 is considered to be the closest prior art in respect to the subject of claim 1. It discloses (the references in parentheses refer to this document):

a web-fed rotary printing press (claim 1) with at least one printing unit for imprinting a web and a folding apparatus (8, 9, 11, 12, 13, 17, 18), wherein a transport cylinder (9) of the folding apparatus is designed with a circumference for receiving **seven** (column 3, lines 42 to 46) sectional lengths of the printed product arranged one behind the other in the circumferential direction.

2.2 Therefore the subject of claim 1 differs from the web-fed rotary printing press known from D1 in that

- the printing unit is provided for imprinting a web with **six** printed pages arranged axially side-by-side,

- the transport cylinder of the folding apparatus cooperates with a cutting cylinder having four cutters which are arranged one behind the other, viewed in the circumferential direction of the transport cylinder.

2.3 Therefore the subject of claim 1 is novel (Article 33(2) PCT).

2.4 Therefore the object to be attained by means of the present invention can be seen to lie in dependably assuring large actuating movements (cutting, holding, folding) at high production speeds.

2.5 The attainment of the object proposed in claim 1 of the instant application is based on inventive activities (Article 33(3) PCT) for the following reasons:

The characteristic "with **six** printed pages arranged axially side-by-side" had already been used for the same purpose in a similar web-fed rotary printing press, see document D2 in this connection, in particular column 2, lines 28 to 41. If one skilled in the art intends to achieve the same purpose in connection with a web-fed rotary printing press in accordance with document D1, it is easily possible for him to apply the characteristics known from D2 to the subject of D1.

For attaining the object it would be obvious to one skilled in the art to select a web-fed rotary printing press with a printing unit for imprinting a web with **six** printed pages arranged axially side-by-side.

However, these two documents D1 and D2 do not disclose the characteristic "a cutting cylinder with **four** cutters".

Document D3 discloses a web-fed rotary printing press with a transport cylinder having a circumference for receiving **only five** sectional lengths and a cutting cylinder with **four** cutters.

Although D1, D2 and D3 contain all technical characteristics of claim 1, neither document D1 nor D2 nor D3 contains a suggestion for combining the teachings of the two documents. Also, D3 does not disclose the underlying object of reducing by means of an increased radius of curvature the pronounced oblique cutting edge in connection with thick products which are transversely cut.

3. INDEPENDENT CLAIM 2

3.1 Document D1 is considered to be the closest prior art in respect to the subject of claim 1. It discloses (the references in parentheses refer to this document):

a web-fed rotary printing press (claim 1) with at least one printing unit for imprinting a web and a folding apparatus (8, 9, 11, 12, 13, 17, 18), wherein a transport cylinder (9) of the folding apparatus is designed with a circumference for receiving **seven** (column 3, lines 42 to 46) sectional lengths of the printed product arranged one behind the other in the circumferential direction.

3.2 Therefore the subject of claim 1 [sic] differs from the web-fed rotary printing press known from D1 in that

- the printing unit is provided for imprinting a web with **six** printed pages arranged axially side-by-side,

- the transport cylinder of the folding apparatus cooperates with a cutting cylinder having two cutters which are arranged one behind the other, viewed in the circumferential direction of the transport cylinder, each of which supports two cutters.

3.3 Therefore the subject of claim 1 [sic] is novel (Article 33(2) PCT).

3.4 Therefore the object to be attained by means of the present invention can be seen to lie in dependably assuring large actuating movements (cutting, holding, folding) at high production speeds.

3.5 The attainment of the object proposed in claim 1 [sic] of the instant application is based on inventive activities (Article 33(3) PCT) for the following reasons:

The characteristic "with **six** printed pages arranged axially side-by-side" had already been used for the same purpose in a similar web-fed rotary printing press, see document D2 in this connection, in particular column 2, lines 28 to 41. If one skilled in the art intends to achieve the same purpose in connection with a web-fed rotary printing press in accordance with document D1, it is easily possible for him to apply the characteristics known from D2 to the subject of D1.

For attaining the object it would be obvious to one skilled in the art to select a web-fed rotary printing press with a printing unit for imprinting a web with **six** printed pages arranged axially side-by-side.

However, the prior art, in particular the two documents D1 and D2, does not disclose the characteristic "**two** cutting cylinders with two cutters".

Moreover, the prior art does not disclose the underlying object of reducing the pronounced oblique cutting edge in connection with thick products which are transversely cut by means of two cutting cylinders at the circumference of the transport cylinder.

4. DEPENDENT CLAIMS 3 TO 45

4.1 Claims 3 to 45 depend from claims 1 and 2 and therefore also meet the requirements of PCT regarding novelty and inventive activities.

W1.2112PCT
10/12/2004

Replacement Page

PCT/EP2004/050446

1

Specification

Web-Fed Rotary Printing Press

The invention relates to a web-fed rotary printing press in accordance with the preamble of claim 1 or 2.

A printing press with printing units for printing six side-by-side arranged newspaper pages, a folder structure with two groups of three formers each and an adjoining folding apparatus is known from WO 03/031 179 A2. The printing unit, folder structure and folding apparatus can be driven by independent motors.

"Offsetdrucktechnik" [Offset Printing Technology] by H. Teschner, Fachschriftenverlag GmbH & Co. KG [publishers of specialized literature], discloses on page 10/32 in Fig. 6 a nine-cylinder satellite printing unit on which a three cylinder color deck for 4/1 printing is arranged.

DE 25 28 008 A1 shows a printing press for a direct printing process with forme cylinders, which can be equipped with six printing plates in the axial direction and with two printing plates in the circumferential direction, and with counter-pressure cylinders, which can be covered with three printer's blankets in the axial direction and with one in the circumferential direction. Both the side-by-side arranged printing plates and the side-by-side arranged printer's blankets are each arranged offset in the circumferential direction.

AMENDED SHEET

DE 25 10 057 A1 also discloses a printing press for the direct printing process, wherein the forme cylinder, which works together with the counter-pressure cylinder, supports six printing plates over its width and two over its length.

A printing group with forme, transfer and counter-pressure cylinders is known from JP 56-021860 A, wherein each one of the three cylinders is driven by its own drive motor.

A triple-width web-fed rotary printing press is known from DE 41 28 797 A1, wherein longitudinally folded continuous webs can enter a folding apparatus having two pairs each with a folding cylinder and a cutting cylinder.

A printing press with printing groups of a width of six newspapers is known from "Newspapers & Technology", December 2000. The printing groups are embodied as bridge printing groups, wherein the transfer cylinders are covered with rubber blanket sleeves.

WO 01/70608 A1 discloses a turning bar arrangement, wherein two turning bars substantially of a width of a partial web are each displaceably arranged transversely in respect to the direction of the incoming partial web on a support. A register roller is arranged laterally outside of the lateral frame, whose longitudinal axis extends substantially parallel with the lateral frame and which can also be displaced in a direction transversely in respect to the direction of the incoming web.

A folder structure is known from USP 4,671,501, wherein two formers are arranged one on top of the other, wherein the webs, following their passage through run-up rollers upstream of a third former, are longitudinally cut, the partial webs are turned by 90° by a third former and are thereafter combined into two continuous webs, and are conducted to the formers which are arranged on top of each other.

A folder structure with two groups of formers, which

are offset vertically in respect to each other, is known from EP 1 072 551 A2. A harp, i.e. a group of collecting, take-off, or also harp rollers is arranged above each group of formers, over which the respective partial webs are conducted to the assigned group of formers.

A folder structure is known from WO 97/17200 A2, wherein cut partial webs, which are transversely offset in relation to each other, are conducted to different formers.

Some of the formers, which are horizontally next to each other, are arranged vertically offset in relation to each other.

DE 44 19 217 A1 shows a superstructure of a web-fed rotary printing press with a turning device, wherein partial webs are offset by half a partial web width in order to conduct them on top of each other and to a common former.

A folding apparatus with a five-, or even seven-fold transport cylinder which works together with a double cutter cylinder, is known from DE 43 44 620 A1.

A seven-fold transport cylinder designed as a puncture cylinder, is known from DE 44 26 987 A1.

EP 1 391 411 A1 discloses a folding apparatus, wherein a product section, which is to be put on spur needles, is pressed against the transport cylinder by means of a pressure roller with a soft surface.

A cutter cylinder, which cooperates with a counter-pressure cylinder, for web-shaped goods is disclosed in DE 33 03 628 C2, which in one representation has six, and in another representation three cutters one behind the other in the circumferential direction.

A folding apparatus with a double-wide folding cylinder and a double-wide cutting cylinder is known from USP 5,503,379, wherein two cutting devices can be arranged axially side-by-side on the double-wide cylinder.

The object of the invention is based on creating a web-fed rotary printing press.

W1.2112PCT
10/12/2004

Replacement Page

PCT/EP2004/050446

This object is attained in accordance with the
invention by means of the characteristics of claim 1 or 2.

AMENDED SHEET

Claims

1. A web-fed rotary printing press with a least one printing unit (02) for imprinting a web (03, 03') of six axially side-by-side arranged printed pages and a folding apparatus (12), characterized in that a transport cylinder (123) of the folding apparatus (12) is embodied with a circumference for receiving at least seven sectional lengths of the product, which are arranged one behind the other in the circumferential direction, and works together with a cutting cylinder (127') having four cutters (128, 128') which are arranged one behind the other, viewed in the circumferential direction of the transport cylinder (123).

2. A web-fed rotary printing press with a least one printing unit (02) for imprinting a web (03, 03') of six axially side-by-side arranged printed pages and a folding apparatus (12), characterized in that a transport cylinder (123) of the folding apparatus (12) is embodied with a circumference for receiving at least seven sectional lengths of the product, which are arranged one behind the other in the circumferential direction, and works together with two cutting cylinders (127), which are arranged one behind the other on the circumference of the transport cylinder (123) and each of which supports two cutters (128).

07/22/2005

3. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that seven spur needle strips (129) are arranged on the transport cylinder (123) one behind the other in the circumferential direction as holding devices (129).

4. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the sectional lengths each correspond to the length of a newspaper page.

5. The web-fed rotary printing press in accordance

Claims

1. A web-fed rotary printing press with a least one printing unit (02) for imprinting a web (03, 03') of six axially side-by-side arranged printed pages and a folding apparatus (12), characterized in that a transport cylinder (123) of the folding apparatus (12) is embodied with a circumference for receiving at least seven sectional lengths of the product, which are arranged one behind the other in the circumferential direction, and works together with four cutters (128, 128') which are arranged one behind the other, viewed in the circumferential direction of the transport cylinder (123).

2. A web-fed rotary printing press with a least one printing unit (02) for imprinting a web (03, 03') of six axially side-by-side arranged printed pages and a folding apparatus (12), characterized in that a transport cylinder (123) of the folding apparatus (12) is embodied with a circumference for receiving at least seven sectional lengths of the product, which are arranged one behind the other in the circumferential direction, and works together with two cutting cylinders (127), which are arranged one behind the other on the circumference of the transport cylinder (123) and each of which supports two cutters (128), or with one cutting cylinder (127') with four cutters (128) in the

10/12/2004

~~circumferential direction.~~

3. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that seven spur needle strips (129) are arranged on the transport cylinder (123) one behind the other in the circumferential direction as holding devices (129).

4. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the sectional lengths each correspond to the length of a newspaper page.

5. The web-fed rotary printing press in accordance

10/12/2004

75

with claim 1 or 2, characterized in that three continuous webs (109, 111, 112, 113, 114, 116) can be conducted simultaneously to the transport cylinder (123) from three side-by-side arranged formers (101, 102, 103, 106, 107, 108).

6. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that continuous webs (109, 111, 112, 113, 114, 116) with a total of up to seventy-two layers located on top of each other can be conducted to the transport cylinder (123).

7. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the transport cylinder (123) has seven holding devices (129) one behind the other in the circumferential direction.

8. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the folding apparatus (12) has respectively two individually driven traction roller pairs (124) in its inlet area.

9. The web-fed rotary printing press in accordance with claim 1, characterized in that the folding apparatus (12) has two cutting cylinders (127), which work together with the transport cylinder (123).

AMENDED SHEET

10/12/2004

10. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the folding apparatus (12) is rotatorily driven by at least one drive motor (136) mechanically independently of the printing unit (03).

11. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the transport cylinder (123), at least one cutting cylinder (127), as well as a folding jaw cylinder (132) of the folding apparatus (12), are rotatorily driven by a common drive motor (136) mechanically independently of the printing unit (03).

12. The web-fed rotary printing press in accordance with claim 10 or 11, characterized in that a paddle wheel (133) is rotatorily driven via a driven connection from the cylinders (123, 127, 134) of the folding apparatus (12).

13. The web-fed rotary printing press in accordance with claim 10 or 11, characterized in that a delivery device (134) is driven by its own drive motor mechanically independently of the cylinders (123, 127, 134) of the folding apparatus (12).

14. The web-fed rotary printing press in accordance with claim 11, characterized in that driving is provided at a cutting cylinder (127).

15. The web-fed rotary printing press in accordance with claim 11, characterized in that driving is provided at the transport cylinder (123).

16. The web-fed rotary printing press in accordance with claim 11, 12, 13, 14 or 15, characterized in that driving from the drive motor (136) to one or several of the cylinders (123, 127, 132) is provided via a gear.

17. The web-fed rotary printing press in accordance

10/12/2004

with claim 1 or 2, characterized in that a superstructure (04), in which the web (03, 03') can be longitudinally cut into three partial webs (03a, 03b, 03c), as well as a folder structure (11), which at least one roller (117, 118) for conveying the partial webs (03a, 03b, 03c), is provided, and that the printing unit (02), the at least one roller (117, 118) for conveying the partial webs (03a, 03b, 03c) of the folder structure (11), as well as the downstream arranged folding apparatus (12), are each rotatorily driven by drive motors (61, 119, 120, 136) mechanically independently of each other.

18. The web-fed rotary printing press in accordance

with claim 1 or 2, characterized in that a folder structure (11), which two groups, offset vertically in respect to each other, of respectively at least two formers (101, 102, 103, 106, 107, 108) and at least one group of run-up rollers (88, 89, 93) arranged upstream of the folder structure (11), is provided.

19. The web-fed rotary printing press in accordance with claim 18, characterized in that partial webs ((03a, 03b, 03c, 03c1, 03c2) created from the two webs (03, 03') are conducted over the group of run-up rollers (88, 89, 93) to formers (101, 102, 103) of the one group of formers (101, 102, 103), as well as to formers (106, 107, 108) of the other group of formers (106, 107, 108).

20. The web-fed rotary printing press in accordance with claim 18, characterized in that at least two printing towers (01), each with at least two printing units (02), are provided.

21. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the printing unit has at least two pairs of respectively two cylinders (16, 17), namely a transfer cylinder (17) and an associated forme cylinder (16), that the transfer and forme cylinders (17, 16) are designed with a width for printing respectively six

10/12/2004

axially side-by-side arranged newspaper pages, and that the usable barrel of the transfer cylinder (17) has a ratio of 5,8 to 8,8 between its length and its diameter.

22. The web-fed rotary printing press in accordance with claim 1, 2, 17 or 21, characterized in that the printing unit has at least two pairs of respectively two cylinders (16, 17), namely a transfer cylinder (17) and an associated forme cylinder (16), that in a print-off position the transfer cylinders (17) work together with a satellite

cylinder (18) and constitute a printing location.

23. The web-fed rotary printing press in accordance with claim 1, 2, 17 or 21, characterized in that the printing unit has at least two pairs of respectively two cylinders (16, 17), namely a transfer cylinder (17) and an associated forme cylinder (16), and that in a print-on position the transfer cylinders (17) work together in pairs and constitute a printing location.

24. The web-fed rotary printing press in accordance with claim 21, 22 or 23, characterized in that the two pairs (16, 17) are each driven by at least one drive motor (61) mechanically independently of each other.

25. The printing unit in accordance with claim 1 or 2, characterized in that a transfer cylinder (17) and a forme cylinder (16) of the printing unit (02) have a circumference which corresponds at least to two upright printed pages, in particular newspaper pages in broadsheet format, which are arranged one behind the other in the circumferential direction.

26. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that a transfer cylinder (17) of the printing unit (02) has three dressings (21)

10/12/2004

side-by-side in the axial direction on three sections (AB, CD, EF) of its shell surface.

27. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that a transfer cylinder (17) of the printing unit (02) has at least three, in particular six, dressings (21) side-by-side in the axial direction, and in the circumferential direction respectively two dressings (19) on six sections (A, B, C, D, E, F) of its shell surface.

28. The web-fed rotary printing press in accordance

with claim 1 or 2, characterized in that the printing unit is embodied as a nine cylinder satellite printing unit (02).

29. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the printing unit is embodied as an H-printing unit with four pairs (16, 17) of cylinders (16, 17) respectively having a transfer and a forme cylinder (16, 17).

30. The web-fed rotary printing press in accordance with claim 28, characterized in that a transfer cylinder (17) and a forme cylinder (16) of the printing unit (02) are mechanically coupled for being driven, and are driven mechanically independently of the associated printing cylinder (18).

31. The web-fed rotary printing press in accordance with claim 30, characterized in that the pair of forme cylinders (16) and transfer cylinders is driven by means of its own drive motor (61), and the printing cylinder (17, 18) has its own drive motor (61).

32. The web-fed rotary printing press in accordance with claim 29, characterized in that in an H-printing unit all four pairs (16, 17) each have their own drive motor (61).

10/12/2004

33. The web-fed rotary printing press in accordance with claim 28, characterized in that in a nine cylinder printing unit all four pairs of cylinders (16, 17) each have their own drive motor (61), and the satellite cylinder (18) has its own drive motor (61).

34. The web-fed rotary printing press in accordance with claim 1, 28 or 29, characterized in that all cylinders (16, 17, 18) of the printing unit (02) each have a drive

motor (61) which is mechanically independent of the remaining cylinders (16, 17, 18).

35. The web-fed rotary printing press in accordance with one of claims 30 to 34, characterized in that driving is provided from the drive motor (61) via a gear (62), in particular a gear train.

36. The web-fed rotary printing press in accordance with claim 1, 2 or 18, characterized in that a group of three side-by-side arranged formers (101, 102, 103, or 106, 107, 108) is assigned to the folding apparatus (12).

37. The web-fed rotary printing press in accordance with claim 36, characterized in that three upper formers are respectively arranged aligned with three lower formers (101, 102, 103, 106, 107, 108).

38. The web-fed rotary printing press in accordance with claim 18 and 37, characterized in that partial webs (03a, 03b, 03c), which are arranged on top of each other and enter the group of run-up rollers (89, 93) can be combined into at least two continuous webs (106, 107, 108, 113, 114, 116) of a variable number of partial webs (3a, 3b, 3c), one of which is conducted to an upper, and the other to a lower former (101, 102, 103, 106, 107, 108).

10/12/2004

39. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the usable barrel of a transfer cylinder (17) of a printing unit has a length of 1,850 to 2,400 mm.

40. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that the usable barrel of a transfer cylinder (17) of a printing unit has a circumference of 850 to 1,300 mm.

41. The web-fed rotary printing press in accordance with claim 1, characterized in that a cutting cylinder (127') is assigned to the transport cylinder (123), which has four cutters (128) arranged one behind the other in the circumferential direction.

42. The web-fed rotary printing press in accordance with claim 2 or 41, characterized in that the four cutters (128) of the cutting cylinder (127') with four cutters (128) are each spaced apart, different from an equidistant arrangement, alternately by $90^\circ - \delta$ and $90^\circ + \delta$, wherein δ represents an angle of less than 2° .

43. The web-fed rotary printing press in accordance with claim 1 or 2, characterized in that a contact cylinder (143) is provided, which is arranged in an area of picking up products by spiking on spur needles (144) and works together with the transport cylinder (123) as a thrust element.

44. The web-fed rotary printing press in accordance with claim 43, characterized in that the contact element has recesses for receiving the spur needles (144) on the surface working together with the spur needles.

45. The web-fed rotary printing press in accordance

W1.2112PCT

Replacement Page

PCT/EP2004/050446

10/12/2004

with claim 2, 8 or 41, characterized in that the cutting cylinder (127, 127') works together with the transport cylinder as a thrust element for the cutting.

AMENDED SHEET